Attorney Docket No. 1796.1001
IDS-3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

David D. GOODMAN

Application No.: 09/863,061 Group Art Unit: 2643

Filed: May 22, 2001 Examiner: Chan, Wing F.

For: VIDEO TRANSMISSION AND CONTROL SYSTEM UTILIZING INTERNAL TELEPHONE LINES

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 CFR § 1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the subject application.

1. Enclosures accompanying this Information Disclosure Statement are:

- 1a. ☒ Form PTO-1449.
- 1b. ☒ Copy(ies) of IDS citation(s), except for U.S. Patents and U.S. Patent Application publications for applications filed on or after June 30, 2003.
- 1c. ☐ English language copy of a communication(s) from a foreign Patent Office or a PCT International Search Report.
- 1d. ☐ English language translation (complete, Abstract or relevant portion(s)) attached to non-English language publications as indicated on the attached Form PTO-1449.
- 1e. ☒ Explanations of Relevancy of References (ATTACHMENT 1(e), hereto).
- 1f. ☐ List of Copending Applications (ATTACHMENT 1(f), hereto).
- 1g. ☐ List of Additional Submitted Documents (ATTACHMENT 1(g), hereto).

2. ☒ This Information Disclosure Statement is filed under 37 CFR § 1.97(b):

(*Check either Item 2a or 2b or 2c or 2d*)

- 2a. ☐ Within three months of the filing date of a national application;
- 2b. ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application.
- 2c. ☒ Before the mailing of a first Office Action on the merits; or
- 2d. ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114.

3. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(c) after the period specified in paragraph 2 above but before the mailing date of any of a Final Office Action under § 1.113, a Notice of Allowance under § 1.311 or an action that otherwise closes prosecution in the application, AND

(Check either Item 3a or 3b; Item 3b to be checked if any reference known for more than 3 months)

3a. ☐ The § 1.97(e) Statement in Item 5 below is applicable; OR

3b. ☐ The $180.00 fee set forth in 37 CFR § 1.17(p) is:

☐ enclosed.

☐ to be charged to Deposit Account No. 19-3935.

4. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(d) after the period specified in paragraph 3 above, but on or before payment of the Issue Fee, AND

4a. ☐ The § 1.97(e) Statement in Item 5 below is applicable; AND

4b. ☐ The $180.00 fee set forth in 37 CFR § 1.17(p) is:

☐ enclosed.

☐ to be charged to Deposit Account No. 19-3935.

5. ☐ Statement under § 1.97(e) *(applicable if Item 3a or Item 4a is checked)*

(Check either Item 5a or 5b)

5a. ☐ In accordance with 37 CFR § 1.97(e)(1), it is stated that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

5b. ☐ In accordance with 37 CFR § 1.97(e)(2), it is stated that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known by any individual designated in § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

6. ☐ This is a continuation/divisional/continuation-in-part application under 37 CFR § 1.53(b).

(Check appropriate Items 6a and/or 6b)

6a. ☐ Copies of the publications listed on the attached Form PTO-1449 which were previously cited in prior application Serial No. __, filed on __, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, have been omitted pursuant to 37 CFR § 1.98(d).

6b. ☐ Copies of the publications listed on the attached Form PTO-1449 which were not previously cited in prior application Serial No. __, filed on __, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, are provided herewith.

7. ☐ This is a Request for Continued Examination under 37 CFR § 1.114.

(*Check either Item 7a or 7b*)

7a. ☐ The Issue Fee has not been paid.

7b. ☐ A Petition to Withdraw from issue under 37 CFR § 1.313(c) is filed concurrently herewith or has been granted. A Request for Continued Examination under 37 CFR § 1.114, after payment of the Issue Fee, is proper in accordance with 37 CFR § 1.114(a), respectively.

8. ☐ This is a Supplemental Information Disclosure Statement.

(*Check either Item 8a or 8b*)

8a. ☐ This Supplemental Information Disclosure Statement under 37 CFR § 1.97(f) supplements the Information Disclosure Statement filed on __. A bona fide attempt was made to comply with 37 CFR § 1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental IDS can be considered as if properly filed on __.

8b. ☐ This Supplemental Information Disclosure Statement is timely filed within one (1) month of the Notice under 37 CFR §§ 1.97 and 1.98, mailed __.

9. ☐ In accordance with 37 CFR § 1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:

(*Check appropriate Items 9a, 9b, 9c and/or 9d*)

9a. ☐ satisfied for the non-English language publication(s) cited on the enclosed "English language version of the search report or action which indicates the degree of relevance found by the foreign office". (See MPEP § 609, Minimum Requirements for an Information Disclosure Statement, Part A(3): Concise Explanation of Relevance, 8th Ed., Rev. 2)

9b. ☐ set forth in the application.

9c. ☐ satisfied for the non-English language publication(s) indicated on the attached Form PTO-1449 as having an English language translation (complete or relevant portion(s)) attached thereto .

9d. ☐ enclosed as Attachment 1(e), hereto.

10. No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than search report(s) from a counterpart foreign application or a PCT International Search Report, if submitted herewith). 37 CFR §§ 1.97(g) and (h).

11. The Commissioner is authorized to credit any overpayment or charge any additional fee required under 37 CFR § 1.17 for this Information Disclosure Statement to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Dated: 10-16-04

By: _____
John C. Garvey
Registration No. 28,607

1201 New York Ave., N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

FORM PTO-1449 INFORMATION DISCLOSURE CITATION	Attorney Docket: 1796.1001	Application No.: 09/863,061
	Applicant: David D. Goodman	Examiner: Wing F. Chan
	Filing Date: May 22, 2001	Group Art Unit: 2643

U.S. PATENT DOCUMENTS

Examiner Initial	Ref. No	Document Number	Date	Name	Class	Sub-Class	Filing Date
	AA	4,206,320	6/1980	Keasler et al.			
	AB	4,731,816	3/1988	Hughes-Hartogs			
	AC	4,833,706	5/1989	Hughes-Hartogs			
	AD	3,511,936	5/1970	Saltzberg			

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub-Class	Translation Yes/No

OTHER DOCUMENTS (Including Author, Title, Date, etc.)

		Weinstein et al., "Data Transmission by Frequency-Division Multiplexing Using the Discrete Fourier Transform," IEEE Transactions on Communication Technology, Vol. Com-19, No. 5Oct. 1971 (pp. 628-634)
		Zimmerman et al., "The AN/GSC-10 (KATHRYN) Variable Rate Data Modem for HF Radio," IEEE Transactions on Communication Technology, Vol. Com-15, No. 2, Apr. 1967 (pp. 197-204)
		Chang, " Synthesis of Band-Limited Orthogonal Signals for Multichannel Data Transmission," Manuscript, Aug. 1966 (pp. 1775-1796)
		Schmid et al., "Frequency-domain Partial Response Signals for Parallel Data Transmission," IEEE Transactions on Communication Technology, Vol. Com-17, No. 5, Oct. 1969 (pp. 536-543)
		Saltzberg, "Performance of an Efficient Parallel Data Transmission System," IEEE Transactions on Communication Technology," Vol. Com-15, No. 6, Dec. 1967 (pp. 805-811)
		Hirosaki et al, "Advanced Groupband Data Modem Using Orthogonally Multiplexed QAM Technique," IEEE Transactions on Communication Technology, Vol. Com-34, No. 6, Jun. 1986 (pp. 587-592)

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		Hirosaki, "An Orthogonally Multiplexed QAM System Using the Discrete Fourier Transform," IEEE Transactions on Communication Technology, Vol. Com-29, No. 7, Jul. 1981 (pp. 982-989)
		Franco et al, "An Orthogonal Coding Technique For Communication," General Dynamic/Electronic Research Division (pp. 126-133)
		Cimini, Jr., "Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing," IEEE Transactions on Communication Technology, Vol. Com-33, No. 7, Jul. 1985 (pp. 665-675)
		Freeman, "Telecommunication Transmission Handbook," 2nd Ed., Cover, pp. xi-xxvii, Chapter 3 (pp. 79-127), Chapter 5 (pp. 172-252), Chapter 6 (pp. 253-288), 1981

Examiner	Date Considered

Examiner: Initial if reference consider, whether or not citation is in conformance with MPEP §609.
Draw line through citation if not in conformance and not considered.
Include copy of this form with next communication to Application

ATTACHMENT 1(e)

EXPLANATIONS OF RELEVANCY OF REFERENCES	ATTORNEY DOCKET NO.	APPLICATION NO.
	1796.1001	09/863,061
	FIRST NAMED INVENTOR	
	David D. GOODMAN	
	FILING DATE	GROUP ART UNIT
	May 22, 2001	2643

Weinstein et al., "Data Transmission by Frequency-Division Multiplexing Using the Discrete Fourier Transform," IEEE Transactions on Communication Technology, Vol. Com-19, No. 5Oct. 1971, discloses, among other things, a frequency–division multiplexing system ("FDM") with overlapping channels, the effects of linear channel distortion, a signal design criteria and equalization algorithms, and a differential phase modulation scheme.

Zimmerman et al., "The AN/GSC-10 (KATHRYN) Variable Rate Data Modem for HF Radio," IEEE Transmissions Communication Technology, Vol. Com-15, No. 2, Apr. 1967, discloses, among other things, a modem for digital data transmission on HR radio circuits using a modulation technique to provide signal redundancy.

Chang, "Synthesis of Band-Limited Orthogonal Signals for Multichannel Data Transmission," Manuscript, Aug. 1966, discloses, among other things, a principle of orthogonal multiplexing from transmitting a number of data messages simultaneously through a linear band limited transmission medium and a system that provides the same signal distance protection against channel noise as if the signals of each channel were transmitted through an independent medium and intersymbol interference in each channel were eliminated by reducing data rate.

Schmid et al., "Frequency-domain Partial Response Signals for Parallel Data Transmission," IEEE Transactions on Communication Technology, Vol. Com-17, No. 5, Oct. 1969, discloses, among other things, basic characteristics of parallel signal formats and partial response signal formats for parallel data transmission over K overlapping channels, where the channels are equally spaced by an amount b in frequency.

Franco et al, "An Orthogonal Coding Technique For Communication," General Dynamic/Electronic Research Division discloses, among other things, a coding technique using waveform redundancy, where optimum alphabet numbers are selected for use in a communications channel.

Saltzberg, "Performance of an Efficient Parallel Data Transmission System," IEEE Transactions on Communication Technology," Vol. Com-15, No. 6, Dec. 1967, discloses, among other things, a parallel quadrature AM data transmission system implemented with overlapping channels with little sensitivity and delay when a large number of channels are used.

Hirosaki et al, "Advanced Groupband Data Modem Using Orthogonally Multiplexed QAM Technique," IEEE Transactions on Communication Technology, Vol. Com-34, No. 6, Jun. 1986, discloses, among other things, a modem based on orthogonally multiplexed QAM techniques, where data is transmitted by a number of orthogonally multiplexed parallel subchannnels. The modem is more immune to noise, channel distortion and retains high flexibility in multiplexing a variety of terminals.

Hirosaki, "An Orthogonally Multiplexed QAM System Using the Discrete Fourier Transform," IEEE Transactions on Communication Technology, Vol. Com-29, No. 7, Jul. 1981, discloses, among other things, a multichannel system with spacing between adjacent carrier frequencies and a signal processing method in the multichannel system.

ATTACHMENT 1(e)

EXPLANATIONS OF RELEVANCY OF REFERENCES	ATTORNEY DOCKET NO.	APPLICATION NO.
	1796.1001	09/863,061
	FIRST NAMED INVENTOR	
	David D. GOODMAN	
	FILING DATE	GROUP ART UNIT
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Cimini, Jr., "Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing," IEEE Transactions on Communication Technology, Vol. Com-33, No. 7, Jul. 1985, discloses, among other things, techniques for combating the effect of multipath propagation and cochannel interference on a narrow-band digital mobile signal, where discrete Fourier transforms are used to orthogonally frequency multiplex many narrow subchannels.

Freeman, "Telecommunication Transmission Handbook," 2nd Ed., 1981 discloses among other things, diversity reception, transmission lines and related devices, and a radiolink system having diversity reception and , where there is a straight line of sight, frequencies above 150 MHz are used, and signal propagation is affected by free space attenuation and precipitation.

United States Patent No. 4,206,320 issued to Keasler et al. discloses, among other things, a modem capable of achieving essentially 9600 bit per second information transfer rate through the switched telephone network. Correlation detection is employed at the receiver to extract or demodulate the information contained in the various sub-carriers. To allow correlation detection with orthogonal signals, each of the sub-carriers is harmonically related to a fundamental which fundamental is, however, slightly higher than the baud rate. This allows the receiver to delay correlation for a "gap" time, which reduces the effect of transients produced by modulation and also provides greater tolerance to inter-symbol distortion.

United States Patent Nos. 4,833,706 and 4,731,816 issued to Hughes-Hartogs, discloses, among other things, a high-speed modem that transmits and receives digital data on an ensemble of carrier frequencies spanning the usable band of a dial-up telephone line, and a systems for eliminating the need for an equalization network, for adaptively allocating control of a channel, and the tracking variations in line parameters. The modem includes a system for variably allocating data and power among the carriers to compensate for equivalent noise and to maximize the data rate.

United States Patent No. 3,511,936 issued to Saltzberg, discloses, among other things, a data transmission system where a plurality of pairs of time staggered data signals modulate in phase.